

## STATEMENT OF BASIS

Dow Corning Alabama, INC.  
Mount Meigs, Alabama  
Montgomery County  
209-0026

This proposed renewal to the Title V Major Source Operating Permit (MSOP) is issued under the provisions of ADEM Admin. Code r. 335-3-16. The above-named applicant has requested authorization, in an application dated February 17, 2015, to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. The applicant has applied to renew the existing MSOP, which was originally issued on August 24, 2000.

Dow Corning Alabama Inc., owns and operates a silicon metal production facility located in Mt. Meigs, Alabama. Dow Corning produces silicon metal by smelting in three 20 MW electric arc furnaces (EAF). Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of each furnace from raw material storage and feed systems. The primary product (silicon metal) gravitates to the hearth of each furnace where it is continuously tapped. The silicon metal is then cooled, crushed and sized on site before shipping.

The significant sources of air pollutants at this facility are:

20 MW Electric Arc Furnace No. 1 & Associated Tapping Operation w/Multiclone & Baghouse (EP001)  
20 MW Electric Arc Furnace No. 2 & Associated Tapping Operation w/Multiclone & Baghouse (EP002)  
20 MW Electric Arc Furnace No. 3 & Associated Tapping Operation w/Multiclone & Baghouse (EP003)  
Chemical Crusher w/ Baghouse (EP004)  
163 HP Diesel Fired Emergency Generator (EP007)  
Product Handling Fugitives (F008)

The facility is manned 8,760 hours per year. This facility is a major source, as defined in ADEM Admin. Code r. 335-3-16, for volatile organic compounds, nitrogen oxides, sulfur dioxide, carbon monoxide, green house gases, and hazardous air pollutants.

The facility reported a total GHGs of 273,610 TPY. This is an estimate of the actual emissions for the calendar year of 2013.

Upon inspecting the facility on March 16, 2015, it was observed that emission points EP005 (Roll Crusher w/ Baghouse) and EP006 (Aluminum Crusher w/ Baghouse) have been removed from the facility; therefore, they will not be included in this Title V renewal.

### **20 MW EAF No. 1 & Associated Tapping Operation w/ Multiclone & Baghouse (EP001)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

### Emissions Standards:

#### **Particulate Matter Emissions:**

DOW Corning is under the source category Ferro Alloys production, NSPS Subpart Z. However DOW Corning has provided a letter dated June 19, 2000, stating that they're not subject to Subpart Z due to commencing construction prior to the applicability date of Subpart Z, October 21, 1974.

The furnace is therefore subject to the State process weight found in ADEM Admin. Code r. 335-3-4-.04. ( $E=3.59P^{0.62}$ , given  $P \leq 30\text{tons/hr}$ )

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-4-.04

#### **Opacity Standards:**

Any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

ADEM Admin. Code r. 335-3-4-.01(1)

### Expected Emissions:

#### **Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 1.011 lbs/hr (4.43 TPY). This is based on a stack test performed in 2010 as well as the maximum potential hours 8,760.

#### **Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 69.15 lbs/hr (302.86 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

#### **Nitrogen Oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 56.40 lbs/hr (247.02 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

#### **Carbon Monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 126.2 lbs/hr (552.82 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Volatile Organic Compounds:**

The expected volatile organic compound emissions from this unit are 10.54 lbs/hr (46.15 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**HCl:**

The expected HCl emissions from this unit are 6.24 lbs/hr (27.34 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

Periodic Monitoring:**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day, check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week, a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)CAM Requirements:

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the unit is subject to an emission limit for PM, uses a control device to achieve compliance with the applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**CAM Plan for 20 MW EAF No. 1 and associated tapping operation with cyclone and baghouse No. 1**

|                                     | Indicator 1   | Indicator 2   | Indicator 3  |
|-------------------------------------|---|---|--|
| <b>I. Indicator</b>                 | <b>Visible Emissions</b>  | <b>Differential Pressure</b>  | <b>Baghouse Fan Amperage</b>   |
| Measurement Approach                | Trained and qualified personnel will do a visible inspection.   | Measured using a pressure gauge.  | Measured using an ammeter.   |
| <b>II. Indicator Range</b>          | While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation. | While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement. | While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement. |
| <b>III. Performance Criteria</b>    |   |   |  |
| 1. Data Representativeness          | Measurement is being made at the emission point (baghouse exhaust).   | The pressure differential is being measured between the inlet and outlet of the baghouse.   | The fan amperage is being measured at the fan.   |
| 2. Verification of Operation Status | Not Applicable  | Not Applicable  | Not Applicable   |
| 3. QA/QC Practices and Criteria     | Qualified personnel will perform the visible inspection.  | The pressure gauge will be calibrated quarterly. Pressure taps checked daily.   | The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.  |
| 4. Monitoring Frequency             | The visible inspection will be performed daily.   | The pressure drop will be monitored daily.  | The fan amperage will be monitored daily.  |
| 5. Data Collection Procedures       | The visible inspection will be recorded with the time, date, and name of the observer.  | The pressure differential will be recorded with the time, date, and name of the observer.   | The fan amperage will be recorded with the time, date, and name of the observer.   |
| 6. Averaging Period                 | Instantaneous   | Instantaneous   | Instantaneous  |

#### Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9 tests, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

#### **20 MW EAF No. 2 & Associated Tapping Operation w/ Multiclone & Baghouse (EP002)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

#### Emissions Standards:

##### **Particulate Matter Emissions:**

DOW Corning is under the source category Ferro Alloys production, NSPS Subpart Z. However DOW Corning has provided a letter dated June 19, 2000, stating that they're not subject to Subpart Z due to commencing construction prior to the applicability date of Subpart Z, October 21, 1974.

The furnace is therefore subject to the State process weight found in ADEM Admin. Code r. 335-3-4-.04. ( $E=3.59P^{0.62}$ , given  $P \leq 30\text{tons/hr}$ )

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-4-.04

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 1.011 lbs/hr (4.43 TPY). This is based on a stack test performed in 2010 as well as the maximum potential hours 8,760.

**Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 69.15 lbs/hr (302.86 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Nitrogen Oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 56.40 lbs/hr (247.02 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Carbon Monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 126.2 lbs/hr (552.82 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Volatile Organic Compounds:**

The expected volatile organic compound emissions from this unit are 10.54 lbs/hr (46.15 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**HCl:**

The expected HCl emissions from this unit are 6.24 lbs/hr (27.34 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

Periodic Monitoring:

**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)**CAM Requirements:**

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the unit is subject to an emission limit for PM, uses a control device to achieve compliance with the applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**CAM Plan for 20 MW EAF No. 2 and associated tapping operation w/ multiclone and baghouse No. 2**

|                                     | Indicator 1   | Indicator 2   | Indicator 3  |
|-------------------------------------|---|---|--|
| I. Indicator                        | Visible Emissions   | Differential Pressure   | Baghouse Fan Amperage  |
| Measurement Approach                | Trained and qualified personnel will do a visible inspection.   | Measured using a pressure gauge.  | Measured using an ammeter.   |
| II. Indicator Range                 | While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation. | While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement. | While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement. |
| III. Performance Criteria           |   |   |  |
| 7. Data Representativeness          | Measurement is being made at the emission point (baghouse exhaust).   | The pressure differential is being measured between the inlet and outlet of the baghouse.   | The fan amperage is being measured at the fan.   |
| 8. Verification of Operation Status | Not Applicable  | Not Applicable  | Not Applicable   |
| 9. QA/QC Practices and Criteria     | Qualified personnel will perform the visible inspection.  | The pressure gauge will be calibrated quarterly. Pressure taps checked daily.   | The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.  |
| 10. Monitoring Frequency            | The visible inspection will be performed daily.   | The pressure drop will be monitored daily.  | The fan amperage will be monitored daily.  |
| 11. Data Collection Procedures      | The visible inspection will be recorded with the time, date, and name of the observer.  | The pressure differential will be recorded with the time, date, and name of the observer.   | The fan amperage will be recorded with the time, date, and name of the observer.   |
| 12. Averaging Period                | Instantaneous   | Instantaneous   | Instantaneous  |

### Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

### **20 MW EAF No. 3 & Associated Tapping Operation w/ Multiclone & Baghouse (EP003)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

### Emissions Standards:

#### **Particulate Matter Emissions:**

DOW Corning is under the source category Ferro Alloys production, NSPS Subpart Z. However DOW Corning has provided a letter dated June 19, 2000, stating that they're not subject to Subpart Z due to commencing construction prior to the applicability date of Subpart Z, October 21, 1974.

The furnace is therefore subject to the State process weight found in ADEM Admin. Code r. 335-3-4-.04. ( $E=3.59P^{0.62}$ , given  $P \leq 30\text{tons/hr}$ )

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-4-.04

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 1.011 lbs/hr (4.43 TPY). This is based on a stack test performed in 2010 as well as the maximum potential hours 8,760.

**Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 69.15 lbs/hr (302.86 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Nitrogen Oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 56.40 lbs/hr (247.02 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Carbon Monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 126.2 lbs/hr (552.82 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**Volatile Organic Compounds:**

The expected volatile organic compound emissions from this unit are 10.54 lbs/hr (46.15 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

**HCl:**

The expected HCl emissions from this unit are 6.24 lbs/hr (27.34 TPY). This is based on 2009 stack test data and the potential hours of operation (8,760 hours).

Emissions Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the unit is subject to an emission limit for PM, uses a control device to achieve compliance with the

applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

**CAM Plan for 20 MW EAF No. 3 and associated tapping operation with cyclone and baghouse No. 3**

|                                      | Indicator 1   | Indicator 2   | Indicator 3  |
|--------------------------------------|---|---|--|
| I. Indicator                         | Visible Emissions   | Differential Pressure   | Baghouse Fan Amperage  |
| Measurement Approach                 | Trained and qualified personnel will do a visible inspection.   | Measured using a pressure gauge.  | Measured using an ammeter.   |
| II. Indicator Range                  | While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation. | While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement. | While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement. |
| III. Performance Criteria            |   |   |  |
| 13. Data Representativeness          | Measurement is being made at the emission point (baghouse exhaust).   | The pressure differential is being measured between the inlet and outlet of the baghouse.   | The fan amperage is being measured at the fan.   |
| 14. Verification of Operation Status | Not Applicable  | Not Applicable  | Not Applicable   |
| 15. QA/QC Practices and Criteria     | Qualified personnel will perform the visible inspection.  | The pressure gauge will be calibrated quarterly. Pressure taps checked daily.   | The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.  |
| 16. Monitoring Frequency             | The visible inspection will be performed daily.   | The pressure drop will be monitored daily.  | The fan amperage will be monitored daily.  |
| 17. Data Collection Procedures       | The visible inspection will be recorded with the time, date, and name of the observer.  | The pressure differential will be recorded with the time, date, and name of the observer.   | The fan amperage will be recorded with the time, date, and name of the observer.   |
| 18. Averaging Period                 | Instantaneous   | Instantaneous   | Instantaneous  |

### Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

### **Product Crushing, Screening, and Processing w/ Baghouse**

#### **Chemical Crusher w/ Baghouse (EP004)**

The Chemical Crusher is a jaw crusher with a single deck shaker screen. This unit is used to separate the silicon metal into two product sizes. The particulate matter emissions from this unit are controlled by a baghouse (EP004).

#### Emissions Standards:

##### **Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$  (P less than 30 tons per hour)

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code r. 335-3-4-.04

At maximum capacity the PM allowable for this unit would be 14.97 lb/hr.

**Opacity Standards:**

Any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

ADEM Admin. Code r. 335-3-4-.01(1)

**Expected Emissions:****Particulate Matter Emissions:**

Expected particulate matter emissions from this unit are 4.74 lbs/hr (20.76 TPY). This is based on AP-42 emission factors, baghouse design capture and control efficiencies, and the maximum hours of operation (8,760 hours).

**Emissions Monitoring:**

Based on the low level of expected emissions from the baghouse as compared to the regulatory allowable, the following requirements would represent periodic monitoring.

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the baghouse associated with this unit to verify proper operation.

The following activities shall be performed:

- (a) Once per week check, the capture hoods associated with this permit for fugitive emissions.
- (b) Once per month, check hopper, fan and cleaning cycle for proper operation.
- (c) Once per month, a visual check of all hoods and ductwork.
- (d) Record any repairs or observed problems.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.

ADEM Admin. Code r. 335-3-16-.05(c)

CAM:

These sources do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9 tests, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall report any Method 9 tests with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code r. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

**Product Handling Emissions (Raw Material Unloading, Conveying, and Storage)**

Product handling emissions include fugitive emissions from storage bins, microsilica bagging, and rail car and tanker truck loading.

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by Rule 335-3-4-.04.

$$E = 3.59 (P)^{0.62} \text{ (P less than 30 tons per hour)}$$

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code r. 335-3-4-.04

**Opacity Standards:**

Any source of particulate matter emissions shall not discharge more than one 6-minute average

opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

ADEM Admin. Code r. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

The expected particulate matter emissions from these units are 0.065 lbs/hr (0.282 TPY). This is based on AP-42 emission factors and the maximum hours of operation (8,760 hours).

Emissions Monitoring:

This source is subject to no additional specific requirements other than those listed in the General Provisos.

CAM:

These sources do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Recordkeeping and Reporting:

This source is subject to no additional specific requirements other than those listed in the General Provisos.

**MACT Subpart ZZZZ – Existing Fired Emergency Generator**

This emergency generator is subject to 40 CFR 63, Subpart ZZZZ, because it was manufactured before the applicability dates in 40 CFR Part 60 Subpart IIII. This emergency generator is not subject to 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) because this generator was manufactured before the applicability date of April 1, 2006. This emergency generator is subject to the applicable requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)). The following emergency generator is considered Subpart ZZZZ:

| <u>Source #</u> | <u>HP</u> | <u>Fuel</u> |
|-----------------|-----------|-------------|
| EP007           | 163       | Diesel      |

NSPS Subpart IIII:

Subpart IIII applies to owners and operators of engines that commence construction after July 11, 2005, where the engines are manufactured on or after April 1, 2006, and are not fire pump engines. This compression ignition generator was manufactured before April 1, 2006 and is not a fire pump engines, so Subpart IIII does not apply.

40 CFR Part 60 Subpart IIII, §60.4200(a)(3)

Emission Standards:

MACT Subpart ZZZZ:

This unit is subject to the applicable requirements listed in Table 2c of 40 CFR 63 Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

40 CFR Part 63 Subpart ZZZZ, §63.6602

The Permittee must operate and maintain this unit according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

40 CFR Part 63 Subpart ZZZZ, §63.6625(e)(2)

The Permittee must install a non-resettable hour meter for each unit if one is not already installed.

40 CFR Part 63 Subpart ZZZZ, §63.6625(f)

This unit may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited.

40 CFR Part 63 Subpart ZZZZ, §63.6640(f)(1)

Expected Emissions:

The expected emissions are based on AP-42 emission factors, manufacturer's certifications, and a maximum operation of 500 hours per year. The expected emissions of the largest emergency generator (Building 4203 – 474 HP) and all the Subpart ZZZZ – Existing Emergency Generators are shown below:

| Pollutant                            | 163 HP Generator |      |
|--------------------------------------|------------------|------|
|                                      | lb/hr            | TPY  |
| PM <sub>10</sub> / PM <sub>2.5</sub> | 0.19             | 0.05 |
| SO <sub>2</sub>                      | 0.27             | 0.07 |
| NO <sub>x</sub>                      | 7.04             | 1.76 |
| CO                                   | 5.89             | 1.47 |
| VOC                                  | 0.24             | 0.06 |
| CO <sub>2</sub> e                    | --               | 54.9 |

#### MACT Monitoring:

The Permittee shall perform the following activities:

- (a) Change oil and filter every 500 hours of operation or annually, whichever comes first;
- (b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
- (c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Or utilize an oil analysis program as describe in §63.6625(i) or §63.6625(j).

40 CFR Part 63 Subpart ZZZZ, Table 2c(1) & Table 2c(6) & §63.6625(i) & (j)

If an oil analysis program is utilized for a stationary compression ignition engine, the Permittee must perform the oil analysis at the same frequency specified above for changing the oil. The Permittee must at a minimum analyze the following parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new, viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new, or percent water content (by volume) is greater than 0.5. If any of the limits are exceed, the Permittee must change the oil within 2 business days of receiving the results of the analysis or before commencing operation, whichever is later.

40 CFR Part 63 Subpart ZZZZ, §63.6625(i)

#### CAM:

This source is uncontrolled; therefore, CAM does not apply.

#### Recordkeeping and Reporting:

The Permittee must keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation.

40 CFR Part 63 Subpart ZZZZ, §63.6625(i) & (j)

The Permittee must keep records of the maintenance conducted on these units in order to demonstrate that you operated and maintained these units and after-treatment control device (if any) according to your own maintenance plan. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation.

40 CFR Part 63 Subpart ZZZZ, §63.6655(e)

The Permittee must keep records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation.

40 CFR Part 63 Subpart ZZZZ, §63.6655(f)

### **Recommendation**

Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45 day EPA review, I recommend issuing the attached renewal to the MSOP for DOW CORNING ALABAMA, INC.

A handwritten signature in black ink, appearing to read "Trevor Baird", written over a light gray rectangular background.

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Trevor Baird

March 16, 2015

Date